

XML Translation Service

Applications Programmers Interface (API) for Network Centric Enterprise Services (NCES)

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1. Introduction

1.1 Document Overview

This document describes the programming interface and expected behaviors of some instances of Mediation's Translation Service. This web service is available to those looking to translate XML documents from a known source schema to a known target schema that reside in the DoD Metadata Registry.

2. Referenced Documents

<http://www.ws-i.org/Profiles/Basic/2003-08/BasicProfile-1.0a.HTML>

3. API Reference

The messages in this section represent translations that can be performed by the Mediation Translation service. These messages all behave synchronously and are required to be exposed via HTTP-POST only. Other synchronous or asynchronous mechanisms may be provided at a later date. The web service shall be SOAP-based and comply with Web Services Interoperability Organization (WS-I) standards.

The publicly accessible translations are:

- **performTranslation:** Used to translate XML in message body to a target schema. Returns translated XML in message.
- **performTranslationAttachment:** Used to translate attached XML to a target schema. Returns translated XML in message.
- **performTranslationURL:** Used to translate XML referenced as a URI to a target schema. Returns translated XML in message.

3.1 performTranslation

The *performTranslation* API call is used to translate XML in the message body to a target schema. The return is a SOAP message that contains the translated XML.

3.1.1 Syntax:

```
<performTranslation >  
  [<sourceSchema/>]  
  [<targetSchema/>]  
  [<inlineXML/>]  
</performTranslation
```

3.1.2 Arguments:

- **sourceSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should conform to. The DoD Metadata Registry must be able to resolve this URN.
- **targetSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should be translated to. The DoD Metadata Registry must be able to resolve this URN.
- **inlineXML:** This well the formed XML to be translated is located between the beginning and end <inlineXML> tags.

3.1.3 Returns:

This API call returns the translated XML upon success. In the event that no matches were located for the specified criteria, the structure returned will be empty (i.e., it contains no translated XML.) This signifies a zero match result. If no arguments are passed, a zero-match result set will be returned.

3.1.4 Caveats:

If any error occurs in processing this API call, an error string will be returned to the caller within a SOAP Fault.

3.2 performTranslationAttachment

The *performTranslationAttachment* API call is used to translate an attached XML document to a target schema. The return is a SOAP message that contains the translated XML. This service is currently restrictive to an Apache SOAP implementation.

3.2.1 Syntax:

```
<performTranslationAttachment>
  [<sourceSchema/>]
  [<targetSchema/>]
  [<xml-reference/>]
</performTranslationAttachment
```

3.2.2 Arguments:

- **sourceSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should conform to. The DoD Metadata Registry must be able to resolve this URN.
- **targetSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should be translated to. The DoD Metadata Registry must be able to resolve this URN.
- **xml-reference:** This is a reference to the attached XML document. The href value is a reference to attachments carried as MIME parts in the SOAP message package.

3.2.3 Returns:

This API call returns the translated XML upon success. In the event that no matches were located for the specified criteria, the structure returned will be empty (i.e., it contains no translated XML.) This signifies a zero match result. If no arguments are passed, a zero-match result set will be returned.

3.2.4 Caveats:

This service accepts Apache's SOAP implementation of attachments see sample code in Appendix

If any error occurs in processing this API call, an error string will be returned to the caller within a SOAP Fault.

3.3 performTranslationURL

The *performTranslationURL* API call is used to translate an XML document referenced as a URI to a target schema. The return is a SOAP message that contains the translated XML.

3.3.1 Syntax:

```
<performTranslationURL>  
    [<sourceSchema/>]  
    [<targetSchema/>]  
    [<xmlURL/>]  
</performTranslationURL
```

3.3.2 Arguments:

- **sourceSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should conform to. The DoD Metadata Registry must be able to resolve this URN.
- **targetSchema:** This is the URN to a schema in the DoD Metadata Registry that the XML document should be translated to. The DoD Metadata Registry must be able to resolve this URN.
- **xmlURL:** This is a valid URL to some well formed XML document

3.3.3 Returns:

This API call returns the translated XML upon success. In the event that no matches were located for the specified criteria, the structure returned will be empty (i.e., it contains no translated XML.) This signifies a zero match result. If no arguments are passed, a zero-match result set will be returned.

3.3.4 Caveats:

If any error occurs in processing this API call, an error string will be returned to the caller within a SOAP Fault.

Appendix A – SOAP Examples

Appendix A contains examples of all of the SOAP message invocations and responses. There is an example soap request for each of the three services. This is followed by example responses received from the services to include both a successful completion response and a SOAP fault.

A.1 SOAP Requests

A.1.1 SOAP request with XML inline

Example invocation of the *performTranslation* API call:

```
<?xml version="1.0"?>
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<soapenv:Body
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:http="http://www.w3.org/2003/05/soap/bindings/HTTP/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/">
<performTranslation xmlns:mts="http://nces.disa.mil/ces/mediation/XMLTranslationService/schema">
<sourceSchema>MDREG-NIPR:TBD:itmExampleSchema.xsd:DOD:XML Schema
Document:</sourceSchema>
<targetSchema>MDREG-NIPR:TBD:npsExampleSchema.xsd:DOD:XML Schema
Document:</targetSchema>
<inlineXML>
<env:Envelope
xmlns:env="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<env:Body
xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
xmlns:http="http://www.w3.org/2003/05/soap/bindings/HTTP/"
xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/">
<ns1:nps xmlns:ns1="MDREG-NIPR:TBD:itmExampleSchema.xsd:DOD:XML Schema Document:">
<struct href="#id0"/>
</ns1:nps>
<multiRef id="id0" soapenc:root="0"
soapenv:encodingStyle="http://schemas.xmlsoap.org/soap/encoding/"
xsi:type="ns2:StandardResourceMetadata" xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
xmlns:ns2="typeNS">
<URL xsi:type="xsd:string">http://www.fgm.com/doc.html</URL>
<URLType xsi:type="xsd:string">Local</URLType>
<countryOfOrigin xsi:type="xsd:string">countyOfOrigin</countryOfOrigin>
<createTime xsi:type="xsd:string">01-Jun-2002</createTime>
<deleteTrackFlag xsi:type="xsd:string"/>
<endDate xsi:type="xsd:string">01-Jan-2002</endDate>
<location xsi:type="xsd:string">location</location>
<mimeType xsi:type="xsd:string">text/xml</mimeType>
<productDescription xsi:type="xsd:string">desc</productDescription>
<productFormat xsi:type="xsd:string">productFormat</productFormat>
```

```

        <productLength xsi:type="xsd:int">0</productLength>
        <productName xsi:type="xsd:string">metadata.xml</productName>
        <productTitle xsi:type="xsd:string">productTitle</productTitle>
        <productType xsi:type="xsd:string">productType</productType>
        <publishTime xsi:type="xsd:string">01-Jan-2002</publishTime>
        <publisherID
        xsi:type="xsd:string">2CDA58B0-98E8-1D61-A135-
BFA70202AA77</publisherID>
        <securityClassCD xsi:type="xsd:string">S</securityClassCD>
        <sourceID xsi:type="xsd:string">sourceID</sourceID>
        <startDate xsi:type="xsd:string">01-Jan-2002</startDate>
        <uuid
        xsi:type="xsd:string">76867DA0-9D07-1D71-B0EB-
0A0A2867AA77</uuid>
    </multiRef>
</env:Body>
</env:Envelope>
</inlineXML>
</performTranslation>
</soapenv:Body>
</soapenv:Envelope>

```

A.1.2 SOAP request with XML as an Attachment

Example invocation of the *performTranslationAttachment* API call:

```

<<?xml version="1.0"?>
<soapenv:Envelope
    xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body
        xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
        xmlns:http="http://www.w3.org/2003/05/soap/bindings/HTTP/"
        xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/">
        <performTranslationAttachment
            xmlns:mts="http://nces.disa.mil/ces/mediation/XMLTranslationService/schema">
            <sourceSchema
                xsi:type="xsd:string">MDREG-NIPR:TBD:idmExampleSchema.xsd:DOD:XML
Schema</sourceSchema>
            <targetSchema
                xsi:type="xsd:string">MDREG-NIPR:TBD:npExampleSchema.xsd:DOD:XML
Schema</targetSchema>
            <xml-reference href="nps.xml"/>
        </performTranslationAttachment>
    </soapenv:Body>
</soapenv:Envelope>>

```

A.1.3 SOAP request with XML as an URL

Example invocation of the *performTranslationURL* API call:

```

<?xml version="1.0"?>
<soapenv:Envelope
    xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
    xmlns:xsd="http://www.w3.org/2001/XMLSchema"
    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <soapenv:Body
        xmlns:mime="http://schemas.xmlsoap.org/wsdl/mime/"
        xmlns:http="http://www.w3.org/2003/05/soap/bindings/HTTP/"
        xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
        xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/">
        <performTranslationURL
            xmlns:mts="http://nces.disa.mil/ces/mediation/XMLTranslationService/schema">

```

```

        <sourceSchema                                xsi:type="xsd:string">MDREG-
NIPR:TBD:idmExampleSchema.xsd:DOD:XML Schema Document:</sourceSchema>
        <targetSchema                                xsi:type="xsd:string">MDREG-
NIPR:TBD:npsExampleSchema.xsd:DOD:XML Schema Document:</targetSchema>
        <xmlURL xsi:type="xsd:string">http://localhost:80/nps.xml</xmlURL>

    </performTranslationURL>
</soapenv:Body>
</soapenv:Envelope>

```

A.2 SOAP Responses

A.2.1 Successful Return

This is an example of a successfully translated message response. This is consistent for all three services, *performTranslation*, *performTranslationAttachement*, and *performTranslationURL*.

```

<?xml version="1.0" encoding="UTF-8"?>
<soapenv:Envelope
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:fo="http://www.w3.org/1999/XSL/Format">

    <soapenv:Body>
        <post>
            <idm:message                                xmlns:idm="http://horizontal-fusion.mil/posting"
xmlns="http://horizontal-fusion.mil/posting">
                <idm:id/>
                <idm:persistent/>
                <idm:priority/>
                <idm:ttl/>
                <idm:timestamp/>
                <idm:metadata xmlns:nps="http://mil.disa.nps/metadata">
                    <nps:metadata>
                        <nps:uuid>76867DA0-9D07-1D71-B0EB-
0A0A2867AA77</nps:uuid>
                        <nps:securityClassCd>S</nps:securityClassCd>
                        <nps:location>location</nps:location>

                        <nps:countryOfOrigin>countyOfOrigin</nps:countryOfOrigin>
                        <nps:publisherId>2CDA58B0-98E8-1D61-A135-
BFA70202AA77</nps:publisherId>

                        <nps:sourceId>sourceID</nps:sourceId>
                        <nps:createTime>01-Jun-2002</nps:createTime>
                        <nps:publishTime>01-Jan-2002</nps:publishTime>

                    </nps:metadata>
                </idm:metadata>
                <nps:productFormat>productFormat</nps:productFormat>
                <nps:productType>productType</nps:productType>
                <nps:mimeType>text/xml</nps:mimeType>
                <nps:productName>metadata.xml</nps:productName>
                <nps:productTitle>productTitle</nps:productTitle>

                <nps:productDescription>desc</nps:productDescription>
                <nps:startDate>01-Jan-2002</nps:startDate>
                <nps:endDate>01-Jan-2002</nps:endDate>
            </idm:message>
        </post>
    </soapenv:Body>
</soapenv:Envelope>

```

```

        <nps:url>http://www.fgm.com/doc.html</nps:url>
        <nps:urlType>Local</nps:urlType>
        <nps:productLength>0</nps:productLength>
        <nps:trackDeleteFlag/>
      </nps:metadata>
    </idm:metadata>
    <xs:url>http://www.fgm.com/doc.html</xs:url>
    <idm:topic/>
    <idm:body/>
  </idm:message>
</post>
</soapenv:Body>
</soapenv:Envelope>

```

A.2.2 SOAP Fault

This is an example of a SOAP fault thrown by any of the translations services. This is consistent for all three services, *performTranslation*, *performTranslationAttachement*, and *performTranslationURL*. In this particular example, the service timed out waiting for a response from an external web request.

```

<SOAP-ENV:Envelope xmlns:SOAP-ENV="http://schemas.xmlsoap.org/soap/envelope/"
  xmlns:xsi="http://www.w3.org/1999/XMLSchema-instance"
  xmlns:xsd="http://www.w3.org/1999/XMLSchema">
  <SOAP-ENV:Body>
  <SOAP-ENV:Fault>
  <faultcode>SOAP-ENV:Server</faultcode>
  <faultstring>Request timed out while waiting for response</faultstring>
  </SOAP-ENV:Fault>
  </SOAP-ENV:Body>
</SOAP-ENV:Envelope>

```

Appendix B – Example Attachement

Appendix B contains an http client example of building a SOAP attachment. This example is only pertinent to the *performTranslationAttachement* service. As stated earlier, this service only utilizes an Apache SOAP stack.

```
//read the attachment content from specified file
org.apache.soap.util.mime.ByteArrayDataSource ds =
new org.apache.soap.util.mime.ByteArrayDataSource(new File(someFile), null);

javax.activation.DataHandler dh = new javax.activation.DataHandler(ds);
javax.mail.internet.MimeBodyPart bp = new javax.mail.internet.MimeBodyPart();
bp.setDataHandler(dh);
bp.setFileName(m_attachment);
//set a header on the attachment's part
bp.setHeader(org.apache.soap.Constants.HEADER_CONTENT_ID, "TestContentID");
//add the attachment to the SOAP message
msg.addBodyPart(bp);
```

Appendix C - WSDL

Appendix C outlines the WSDL interfaces for the three mediation translation services.

```

<definitions name="mil.disa.Mediation.TranslationService"
targetNamespace="http://nces.disa.mil/ces/mediation/XMLTranslationService/schema"
  xmlns:tns="http://nces.disa.mil/ces/mediation/XMLTranslationService/schema"
  xmlns:electric="http://www.themindelectric.com/"
  xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema"
  xmlns:soapenc="http://schemas.xmlsoap.org/soap/encoding/"
  xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/"
  xmlns:apachesoap="http://xml.apache.org/xml-soap"
  xmlns="http://schemas.xmlsoap.org/wsdl/">

  <types>
    <xsd:schema xmlns="http://www.w3.org/2001/XMLSchema"
targetNamespace="http://xml.apache.org/xml-soap">
      <element name="DataHandler" nillable="true" type="apachesoap:DataHandler" />
    </xsd:schema>
  </types>

  <message name="performTranslationResponse">
    <part name="Result" type="xsd:string" />
  </message>
  <message name="performTranslationRequest">
    <part name="sourceSchema" type="xsd:string" />
    <part name="targetSchema" type="xsd:string" />
    <part name="inlineXML" type="xsd:string" />
  </message>
  <message name="performTranslationURLRequest">
    <part name="sourceSchema" type="xsd:string" />
    <part name="targetSchema" type="xsd:string" />
    <part name="xmlURL" type="xsd:string" />
  </message>
  <message name="performTranslationAttachmentRequest">
    <part name="sourceSchema" type="xsd:string" />
    <part name="targetSchema" type="xsd:string" />
    <part name="xml-reference" type="xsd:string" />
    <part name="xmlDocument" type="apachesoap:DataHandler" />
  </message>

  <portType name="mil.disa.Mediation.TranslationServicePortType">
    <operation name="performTranslation">
      <input message="tns:performTranslationRequest" />
      <output message="tns:performTranslationResponse" />
    </operation>
    <operation name="performTranslationURL">
      <input message="tns:performTranslationURLRequest" />
      <output message="tns:performTranslationResponse" />
    </operation>
    <operation name="performTranslationAttachment">
      <input message="tns:performTranslationAttachmentRequest" />
      <output message="tns:performTranslationResponse" />
    </operation>
  </portType>

```

```

    </operation>
  </portType>
  <binding
    name="mil.disa.Mediation.TranslationServiceBinding"
    type="tns:mil.disa.Mediation.TranslationServicePortType">
    <soap:binding style="rpc" transport="http://schemas.xmlsoap.org/soap/http" />
    <operation name="performTranslation">
      <soap:operation soapAction="" />
      <input>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </input>
      <output>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </output>
    </operation>
    <operation name="performTranslationURL">
      <soap:operation soapAction="" />
      <input>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </input>
      <output>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </output>
    </operation>
    <operation name="performTranslationAttachment">
      <soap:operation soapAction="" />
      <input>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </input>
      <output>
        <soap:body
          use="literal"
          namespace="urn:MTS"
          encodingStyle="http://schemas.xmlsoap.org/soap/encoding/" />
      </output>
    </operation>
  </binding>
  <service name="mil.disa.Mediation.TranslationService">
    <documentation>mil.disa.Mediation.TranslationService web service</documentation>
    <port
      name="mil.disa.Mediation.TranslationServicePort"
      binding="tns:mil.disa.Mediation.TranslationServiceBinding">
      <soap:address location="http://localhost:2580/samples/soap/reply" />
    </port>
  </service>
</definitions>

```